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United States
Department of
Agriculture

Soil
Conservation
Service

Portland,
Oregon



in cooperation with

Oregon
Department of
Water Resources

Water Supply Outlook for Oregon

as of MAY 1, 1981



TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SNOW SURVEYORS MAKING SPECIAL MEASUREMENTS OF THE SNOWPACK
NEAR MT. ST. HELENS VOLCANO, WASHINGTON, APRIL 1980.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.



☆ GPO 796-768

WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

MAY 1981

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In Cooperation with

OREGON
DEPARTMENT
OF
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WATER SUPPLY OUTLOOK AND SUMMARY FOR OREGON

MAY 1, 1981

*
* The streamflow forecast for Oregon is for flows to be much below normal *
* this summer. In most cases water shortages will be experienced by users *
* diverting water directly from streams. Adequate water supplies are *
* available to users with access to reservoirs. Much of the snowpack has *
* melted, leaving many areas void of snow. Precipitation was below normal *
* for western and central Oregon, while eastern Oregon had above normal *
* precipitation. *
*

SNOW COVER

The snowpack is much below average for the state. Much of this season's meager snowpack melted during April. There are now 18 watersheds that have 0% of average snowpack. Last month these were as high as 63% of normal. This means the snow water has already entered the stream system and will not be available for use this summer. There are two general areas that did improve their snowpack. The Hood River watershed had an increase from 15 to 26% of average snow water. The central Cascade snowpack also increased slightly from last month. The Clackamas and Row Rivers have no snow, while the Santiam has 19%, the McKenzie 26%, and the Middle Fork of the Willamette has 31% of normal. Most of the southern part of the state has no snow. The Wallowa and Imnaha watersheds have the highest snowpack in the state with 61% of average. The rest of the state has below 44% of normal snow water.

PRECIPITATION

April precipitation was below normal for western and central Oregon and above normal for eastern Oregon. The precipitation for Malheur, Harney and Lake Counties ranged from 127 to 148% of normal. The Willamette Valley had 92% while the Rogue and Umpqua watersheds had 76% of average. For the winter season the entire state is slightly below normal (86 to 100%) except for the Rogue-Umpqua area which has received only 72% of normal precipitation.

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RESERVOIR STORAGE

Reservoir storage continues to be adequate in most cases. Much of the precipitation the state has received this season has been in the form of rain so the reservoirs have had a good chance to fill. Twenty-six irrigation reservoirs contain 98% of normal water for this time of year and are presently at 79% of total capacity. There is 2,540,600 acre feet of water stored as of May 1. There continues to be short water problems for several reservoirs. They are: Clear Lake (Wasco), Crescent Lake, Fish Lake, Fourmile Lake, Clear Lake in California, Gerber and Thompson Valley.

STREAMFLOW

Streamflow during April was slightly below normal over most of the northern 2/3 of the state. However, the flow was much below normal for the Rogue (54%), Klamath Lake Inflow (52%), Williamson (42%) and Owyhee Net Inflow (34%). Much of the snow around the state has melted or is rapidly melting and is contributing to the current streamflow. Therefore, this snow water, if not stored in a reservoir, will not be available for irrigators this summer.

Forecast of May-July streamflow volumes on representative Oregon streams as a percent of average are as follows:

<u>STREAM</u>	<u>FORECAST</u> <u>% OF 1963-77 AVG.</u>
Owyhee net Inflow	30%
Malheur nr. Drewsey	50%
Deschutes @ Benham Falls	64%
Grande Ronde @ La Grande	60%
Willamette Mid. Fk. nr. Oakridge	62%
Upper Klamath Lake net Inflow	48%
Rogue @ Raygold	40%
Silvies nr. Burns	44%

These forecasts assume normal weather conditions will occur from now until the end of the forecast period. If the precipitation is much more or less than normal, streamflow will vary from what is forecast.

The forecasts in this bulletin are a result of coordinated activity between the Soil Conservation Service and the National Weather Service as an effort to provide the best possible service to water users.

This report contains data furnished by the Oregon Department of Water Resources U.S. Geological Survey, NOAA National Weather Service and other cooperators.

WATER SUPPLY OUTLOOK

OWYHEE, MALHEUR WATERSHEDS

OREGON

GENERAL OUTLOOK

The streamflow forecast for Malheur County is much below average. It ranges from 30% on the Owyhee to 52% on the Malheur River. Water users diverting water directly from streams will experience shortages this year. All of the snow has melted and is now in the stream system. On May 1 the normal snowpack on the Owyhee is 14.1" of water, on the Malheur it is 14.5". The precipitation for April was 127% of normal and 98% of normal for the winter season. Reservoir storage is above normal for this time of year. Inflow to the Owyhee Reservoir was only 34% of normal for April.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Bully Creek at Warm Springs	3.9	31	March-May		12.6 ^b
Malheur near Drewsey	18.0	50	May-July		36
	19.0	51	May-Sept.		37
Malheur, North Fork at Beulah	20	52	May-July		39
	23	52	May-Sept.		44
Owyhee Reservoir net Inflow	59	30	May-July		197
	67	30	May-Sept.		224
Owyhee at Rome	61	30	May-July		202 ^b
Succor Creek near Jordan Valley	1.7	33	May-July		5.1 ^b

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Owyhee near Rome	2000 1000 500	April 20 May 10 May 15	May 14 May 28 June 11

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Beulah Reservoir	60.0	56.5	59.0	50.3
Bully Creek	30.0	29.2	28.3	24.0
Owyhee	715.0	634.6	701.2	618.4
Warm Springs	191.0	189.4	180.3	147.5

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Jordan Creek	1	0	0
Malheur River	4	0	0
Owyhee River	6	0	0

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

OREGON

GENERAL OUTLOOK

The streamflows forecasted for the Imnaha, Lostine, Hurricane and Wallowa Rivers are among the best in the state, but they are still below average. They range from 72 to 79% of normal. The rest of the streams will be much below average this summer. Water users diverting water directly from streams may experience shortages this summer, while users with access to stored water supplies should have adequate water available. The snowpack on the Burnt and Grande Ronde Rivers is gone. The rest of the area still has 39 to 61% of normal snow water in the mountains. The precipitation was 91% of normal for April and 97% for the November-April period. Reservoirs in this area have above normal supplies for this time of year.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Anthony Creek blw. North Fork nr. North Powder	8.9	65	May-July		13.7
Bear near Wallowa	41	69	May-Sept.		59
Big Creek blw. Burn Creek nr. Medical Spring	4.2	65	May-July		6.5
Burnt near Hereford	6.0	36	May-July		16.7
	7.2	39	May-Sept.		18.2
Catherine near Union	36	66	May-Sept.		54
Deer Creek abv. Phillips Res. nr. Sumpter	5.5	48	May-July		11.4 ^b
Eagle Creek abv. Skull Creek	116	78	May-July		149
	129	78	May-Sept.		165
Grande Ronde at La Grande	58	60	May-July		96
	60	60	May-Sept.		100
Hurricane near Joseph	33	75	May-Sept.		44
Imnaha at Imnaha	185	72	May-Sept.		256
Lostine near Lostine	89	76	May-Sept.		117
Pine Creek nr. Oxbow	107	68	May-July		157 ^b
Powder near Sumpter	34	78	May-July		43
	34	78	May-Sept.		44
Wallowa, East Fork near Joseph	6.4	75	May-July		8.5
	8.4	78	May-Sept.		10.8
Wallowa at Joseph	55	79	May-July		69
Wolf Creek Res. net Inflow	2.5	30	May-June		8.4

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Phillips Lake	73.5	75.9	65.2	59.1
Thief Valley	17.4	18.1	17.4	17.4
Unity	25.2	25.4	25.3	24.1
Wallowa Lake	37.5	32.0	24.5	30.9
Wolf Creek	10.4	11.3	10.0	--

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Burnt River	3	0	0
Grande Ronde River			
above La Grande	3	0	0
Powder River	5	66	39
Wallowa, Imnaha, Catherine Creek	6	64	61

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Eagle Cr.abv. Skull Creek	225 160	July 15 July 30	July 25 Aug. 5 Avg.value
Catherine Cr.nr.Union	33 100 50	Aug. 1 June 21 July 11	49 July 9 July 28
Powder near Sumpter	100 20	May 30 July 10	June 25 July 22
Deer Cr. abv. Phillips Res. nr. Sumpter	40 10	May 17 June 7	June 17 July 6

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

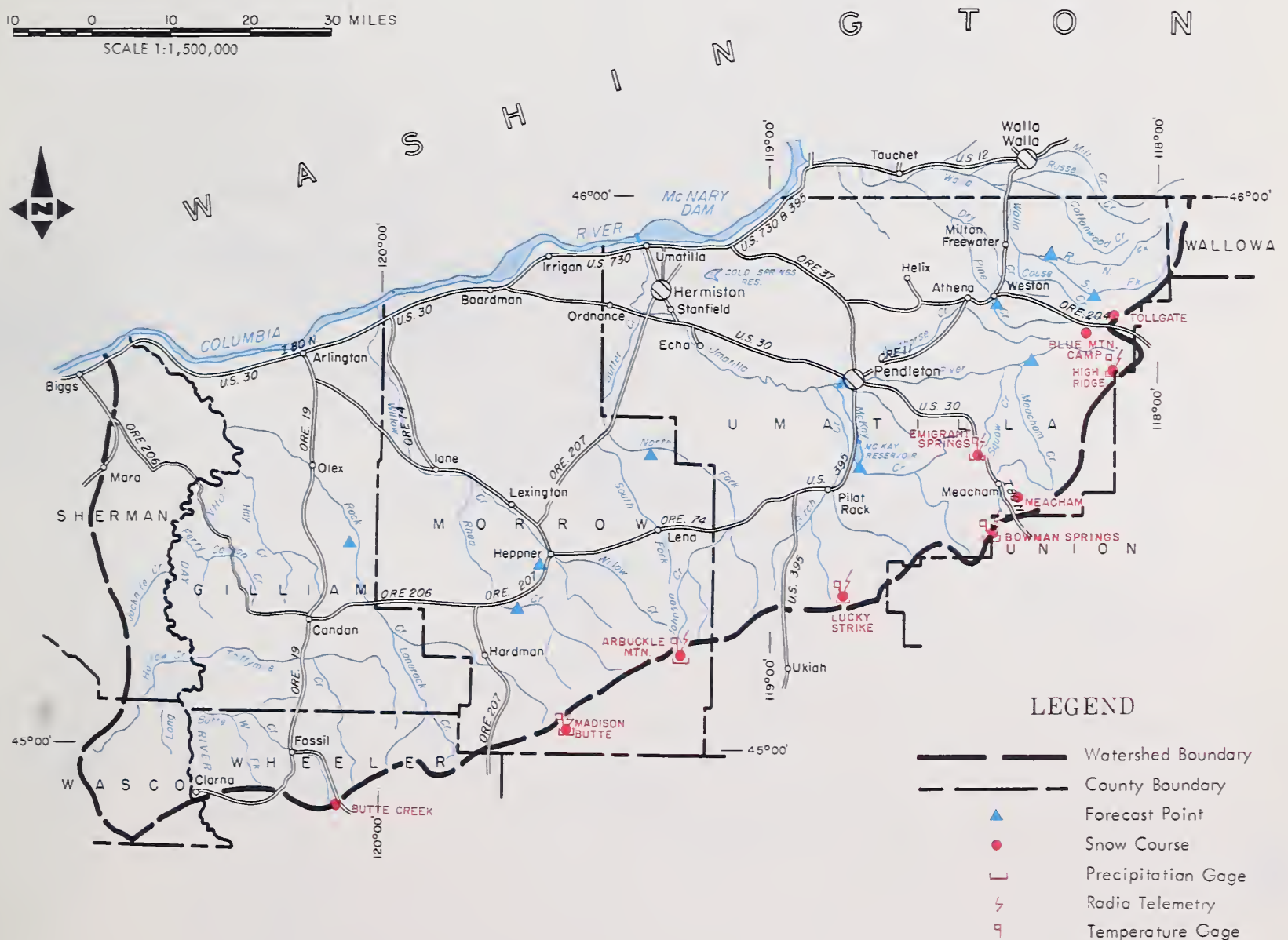
Area 3

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS OREGON

GENERAL OUTLOOK

The streamflow forecast is much below average. It ranges from 50% on Rock Creek to 70% on the Walla Walla. Shortages will be experienced by water users obtaining water directly from streams. Adequate water is contained in area reservoirs for those who have access to them. Snow has begun melting and the averages have been reduced from last month. It ranges from 26% on McKay Creek to 42% of average on the Umatilla watershed. Precipitation was 113% of normal for April and 100% of average for the season.

0 10 20 30 MILES
SCALE 1:1,500,000



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Butter Creek nr. Pine City	2.1	60	May-July		3.5
Couse Creek nr. Milton Freewater	1.0	55	May-July		1.9 ^b
McKay near Pilot Rock	4.0	55	May-Sept.		7.3
Pine Creek near Weston	0.4	50	May-July		0.9 ^b
Rhea Creek nr. Heppner	1.0	55	May-July		1.9
Rock Creek abv. Cayuse Canyon nr. Condon	1.2	50	May-July		2.5 ^b
Umatilla near Gibbon	28	65	May-July		43
	32	65	May-Sept.		49
Umatilla at Pendleton	43	58	May-July		74
Walla Walla, South Fork near Milton	38	70	May-Sept.		54
Willow Creek at Heppner	1.8	67	May-July		2.7

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Umatilla at Pendleton	550	April 21	May 17
So. Fk. Walla Walla near Milton	200	May 15	June 9
	99	Aug.-Sept. Min.	Avg. value 105

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Cold Springs	50.0	47.0	46.8	47.8
McKay	73.8	67.8	67.8	55.0

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
McKay Creek	3	--	26
Umatilla River	3	100	42
Walla Walla River	2	100	35

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

UPPER JOHN DAY WATERSHEDS

OREGON

GENERAL OUTLOOK

The streamflow forecast for the Upper John Day area is for much below normal flows this summer. There will be shortages for users diverting water directly from streams. Most of the snowpack has melted. The North Fork of the John Day has only a 7% snowpack as compared with 49% last month. The John Day above Dayville has no snow left, while normal for May 1 is 22.4 inches of water equivalent. The melted snow water is already in the stream system and will not be available for irrigation use this summer. The April precipitation was 102% of normal and the season total is 93% of normal.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Camas Creek near Ukiah	8.2	50	May-July		16.4
John Day, Middle Fork at Ritter	40	55	May-July		72
	42	55	May-Sept.		76
John Day, North Fork at Monument	194	55	May-July		352
	202	55	May-Sept.		367
Mountain Creek nr. Mitchell	1.1	56	May-July		1.9 ^b
Strawberry near Prairie City	3.7	55	May-July		6.8
	4.1	55	May-Sept.		7.4

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
John Day at Service Cr.	95	Aug. 1	Avg. value 212

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
John Day, North Fork	7	38	7
John Day abv. Dayville	4	0	0

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

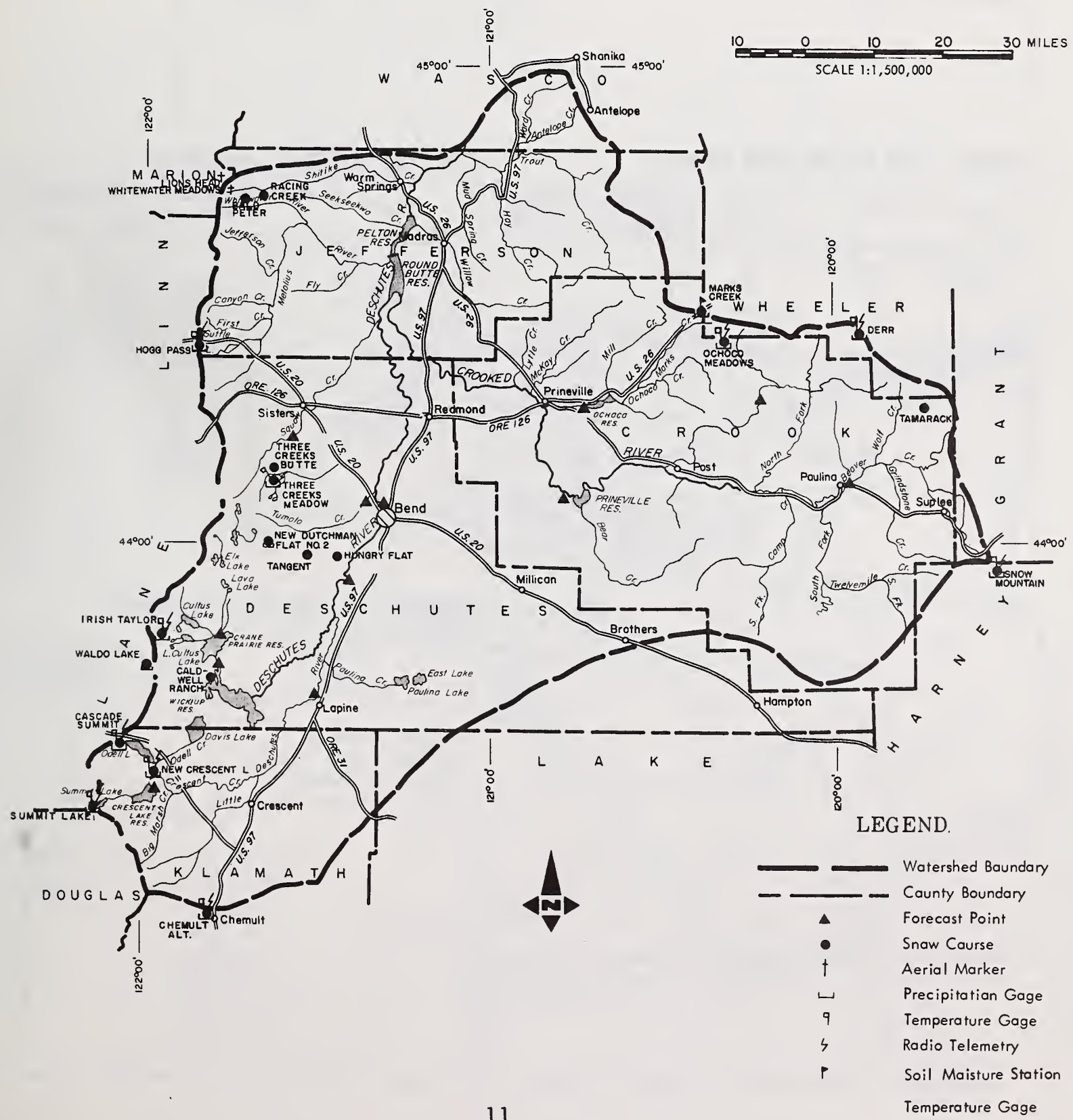
WATER SUPPLY OUTLOOK

UPPER DESCHUTES, CROOKED WATERSHEDS

OREGON

GENERAL OUTLOOK

The streamflow in the Upper Deschutes and Crooked River areas is forecasted to be much below normal. There will be water shortages this summer for users using streamflow for their water source. Most reservoirs have adequate supplies for people having access to them. However, some reservoirs will not have adequate supplies; Crescent Lake is currently at 44% of average for this time of year and only 33% of capacity. The snowpack, as a percent of normal, has improved slightly. The Deschutes snowpack is currently 44% of normal and the Little Deschutes is 33% of normal, which is a 5% increase over last month. Precipitation in the area was only 72% of normal for April and 99% for the winter season.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Beaver Creek near Paulina	2.9	60	May-July		4.9
	3.0	60	May-Sept.		5.0
Crane Prairie Reservoir total Inflow	40	62	May-July		64
	66	62	May-Sept.		106
Crescent at Crescent Lake	3.9	25	May-July		15.5
	5.0	25	May-Sept.		19.8
Crooked River nr. Prineville	21	60	May-July		35
Crooked R., No. Fk. blw. Lookout Cr. nr. Paulina	2.6	60	May-July		4.3 ^b
Deschutes below Bend	98	--	Aug.-Sept.		--
Deschutes at Benham Falls	186	64	May-July		291
	309	64	May-Sept.		483
Deschutes below Snow Creek	35	62	May-Sept.		57
Deschutes, Little near La Pine	21	38	May-July		56
	25	38	May-Sept.		67
Ochoco Reservoir net Inflow	4.4	52	May-Sept.		8.4
Squaw near Sisters	27	60	May-Sept.		45
Tumalo near Bend	25	60	May-Sept.		41

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Crane Prairie net Inflow	180	Peak	
	130	Oct. 31	
	Peak	May 12	
Deschutes at Bend	1500	*	July 1
Little Deschutes nr. La Pine	400	**	June 7
	200	May 23	July 8
Squaw Cr. nr. Sisters	100	July 19	Aug. 16
Tumalo Cr. nr. Bend	235	May 29	June 23
	207	May 30	June 25
	150	June 8	July 5
	71	June 23	Aug. 7

* Will not reach 1500 cfs.

** Will not reach 400 cfs.

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Crane Prairie	55.3	31.4	29.7	45.8
Crescent Lake	86.9	29.0	32.0	66.5
Ochoco	47.5	46.8	46.9	37.8
Prineville	153.0	159.7	160.7	145.0
Wickiup	200.0	180.5	182.2	189.4

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Crooked, Ochoco	-	-	-
Deschutes abv. Wickiup	2	61	44
Little Deschutes	4	64	33
Tumalo & Squaw Crs.	3	42	26

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

OREGON

GENERAL OUTLOOK

The streamflow will be much below normal this summer. Hood River will be 53% of normal and the White River will be only 40%. The snowpack has improved slightly from one month ago, but it is still only 26% of average. Even with the improvement, new low records are still being measured on Mt. Hood. The National Weather Service reported 51% of normal precipitation for April and 87% for the total season. Water supplies will be short for irrigators obtaining water from streams and also Clear Lake Reservoir. Clear Lake is presently at 48% of normal for May 1 and only 27% of usable capacity. It will not fill this year.

10 0 10 20 MILES
SCALE 1:1,000,000



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Hood River at Tucker Bridge near Hood River	90	53	May-July		169
	114	53	May-Sept.		216
Hood River, West Fork near Dee	45	52	May-July		87
	57	52	May-Sept.		109
White below Tygh Valley	31	38	May-July		81
	38	40	May-Sept.		96

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Clear Branch Inflow	*19	July 15-31	**39
*Average cfs forecast to flow for this two-week period.			
**Average cfs for period of record.			
White blw. Tygh Valley	200	June 7	July 3
	103	Aug. 1	Avg. value 145

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Clear Lake (Wasco)	11.9	3.2	3.6	6.7

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Hood River	3	33	26
Mile Creeks	-	-	-
White River	3	33	26

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

LOWER COLUMBIA WATERSHEDS

OREGON

GENERAL OUTLOOK

The streamflow forecast for the Columbia River at The Dalles is 68% of normal. The Sandy River is forecast to be much below average at 50% of normal. Since the summer flow for the Columbia is forecast to be low, the regulated flows below The Dalles will be lower than normal. There may be shortages for water users dependent on the Sandy River for their supply.



SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Sandy River	2	33	28

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Columbia at The Dalles	49,900	66	May-July		76,010
	61,300	67	May-Sept.		90,980
Sandy River near Marmot	115	50	May-July		230
	142	50	May-Sept.		285

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW ^d (1,000 A F)			REGULATED PEAK (1,000 cfs)	DATE
	APR - SEPT.	APR - JUNE	MAY - JUNE		
1963	87,860	58,499	47,812	437	June 18
1964	110,422	73,512	63,670	662	June 18
1965	114,222	80,098	62,467	520	June 9
1966	87,386	58,250	45,962	396	June 12
1967	109,319	74,378	66,452	622	June 10
1968	89,102	55,593	47,994	404	June 13
1969	112,377	85,742	63,899	515	May 15
1970	88,243	62,993	55,227	425	May 28
1971	126,898	91,781	76,453	557	May 13
1972	135,500	97,041	81,451	619	June 20
1973	65,549	43,765	36,565	221	December 5
1974	139,501	99,035	78,946	588	June 20
1975	108,906	73,018	62,861	422	May 17
1976	122,771	79,084	62,554	418	May 14
1977	54,108	35,505	28,394	213	January 25
1963-77 Avg.	103,478	71,220	58,714	468	

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu)	FLOW AT THE DALLES (1,000 cfs)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32 (1972)	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

WATER SUPPLY OUTLOOK

WILLAMETTE WATERSHEDS

OREGON

GENERAL OUTLOOK

Area 8

Rivers in the Willamette Valley will be flowing at 50 to 70% of normal this summer. These rivers are very dependent on spring precipitation. Our forecasts are based on normal temperatures and precipitation for the rest of the season. The April precipitation was 92% of normal and for the season it is 86% of normal. The central Cascades received some snow during April; the snowpack is now at 26% of average on the McKenzie, 19% on the Santiam, 31% on the Middle Fork of the Willamette. The Clackamas and the Row Rivers have no snow on their watersheds. Respectively they should have 21.8" and 31.9" of water equivalent.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Clackamas at Estacada	240	51	May-July		470
	298	51	May-Sept.		584
Clackamas above Three Lynx	193	53	May-July		364
	244	53	May-Sept.		460
McKenzie at McKenzie Bridge	237	70	May-July		338
	339	70	May-Sept.		484
McKenzie near Vida	500	68	May-July		735
	660	68	May-Sept.		970
McKenzie, So. Fork near Rainbow	95	66	May-July		144
	113	66	May-Sept.		171
Mohawk River near Springfield	22.4	70	May-July		32
Oak Grove Fork above Power Intake	68	68	May-July		100
	94	68	May-Sept.		138
Row near Dorena	36	70	May-July		52
	40	70	May-Sept.		57
Santiam, North at Mehama	329	65	May-July		506
	399	65	May-Sept.		614
Santiam, South at Waterloo	226	70	May-July		323
	256	70	May-Sept.		366
Scoggins Creek nr. Gaston	3.6	70	May-July		5.1
Thomas Creek near Scio	27.3	70	May-July		39
Willamette, Coast Fork nr. London	9.0	65	May-July		13.8
Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge	292	62	May-July		471
	353	62	May-Sept.		569
Willamette, No. Fk. of Mid. Fk. near Oakridge	70	56	May-July		125
	82	56	May-Sept.		146
Willamette at Salem	1,762	69	May-July		2,554
	2,096	69	May-Sept.		3,038

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Clackamas River	2	0	0
McKenzie River	3	54	26
Row River	2	0	0
Santiam River	4	63	19
Willamette, Mid. Fk.	4	64	31

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Blue River	85.6*	73.5	72.2	74.9
Cottage Grove	30.0*	23.5	23.5	23.4
Cougar	155.2*	126.2	129.6	109.2
Detroit	299.9*	279.0	264.7	231.2
Dorena	70.5*	55.7	53.4	55.7
Fall Creek	115.0*	102.3	98.9	95.2
Fern Ridge	94.2*	93.9	95.6	83.9
Foster	30.0*	1.3	7.0	16.6 ^b
Green Peter	270.0*	251.5	233.4	209.1
Hills Creek	200.0*	174.6	179.4	146.3
Lookout Point	337.2*	208.7	219.1	227.4
Timothy Lake	61.7	51.9	45.1	60.4
Henry Hagg Lake	53.0	53.1	52.2	--
* Multiple purpose reservoir--space reserved primarily for flood runoff.				

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

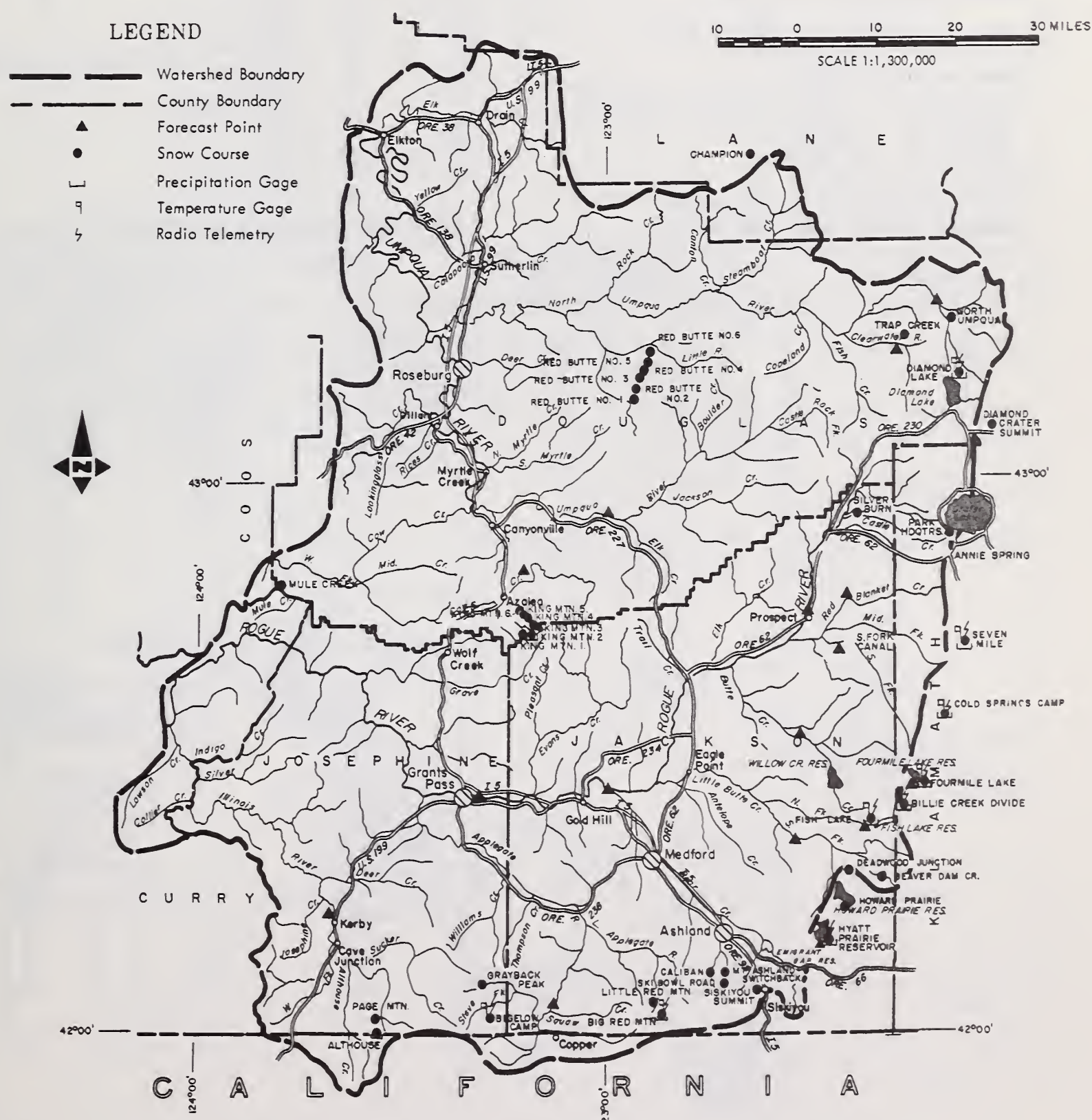
WATER SUPPLY OUTLOOK

ROGUE, UMPQUA, WATERSHEDS

OREGON

GENERAL OUTLOOK

Streamflow is forecasted to be much below average this summer. The Rogue will be 35-40% of normal and the Umpqua will be 45-55%. There will be shortages for water users obtaining water from streams this year. Most reservoirs contain adequate water supplies; however, Fish Lake and Fourmile Lake will experience shortages. The snowpack has been reduced; Butte Creek and the North Umpqua have no snow while the Rogue is now at 14% of average. April precipitation was 76% of normal and for the season it is only 72%, which is the lowest in the state.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Applegate near Copper	24	30	May-July		81
	26	30	May-Sept.		88
Clearwater above Trap Creek	35	60	May-Sept.		59
Cow Creek nr. Azalea	3.3	40	May-July		8.3
Fourmile Lake net Inflow	1.1	38	May-July		2.9
Grave Creek at Pease Bridge nr. Placer	1.3	43	May-July		3.1
Hyatt Reservoir net Inflow	1.0	37	May-July		2.7
Illinois River near Kerby	35	42	May-July		83
	38	42	May-Sept.		90
Little Butte, N. Fk. at Fish Lake nr. Lake Cr.	4.2	35	May-Sept.		11.9
Little Butte, S. Fk. near Lake Creek	6.1	33	May-July		18.5
	7.4	35	May-Sept.		21
Red Blanket Creek nr. Prospect	13.5	50	May-July		27
Rogue above Prospect	74	39	May-July		190
	96	39	May-Sept.		247
Rogue, South Fork near Prospect	16.8	35	May-July		48
	21	35	May-Sept.		59
Rogue at Raygold near Central Point	205	40	May-July		512
	270	40	May-Sept.		675
Rogue at Grants Pass	285	44	May-Sept.		647
Sucker Cr. blw. Little Grayback nr. Holland	12.2	33	May-July		37
Umpqua, No. blw. Lemolo Lake, nr. Toketee Falls	75	52	May-Sept.		144
Umpqua, No. at Winchester	279	57	May-July		490
Umpqua, So. near Brockway	79	43	May-July		184
Umpqua, So. at Tiller	43	41	May-July		104
So.Fk. Big Butte Cr.nr. Butte Falls	14.8	45	May-Sept.		33

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Cow Creek nr. Azalea	20	June 10	July 4
	10	July 15	Aug. 19
Little Butte Creek, South Fork	100	April 7	May 15
South Umpqua nr. Brockway	90	July 1	July 30
South Umpqua at Tiller	140	June 13	July 10
	90	July 3	July 30
	60	July 21	Aug. 27

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Applegate	75.2	55.7	--	--
Emigrant Lake	39.0	37.5	38.9	37.1
Fish Lake	8.0	4.9	5.6	6.4
Fourmile Lake	16.1	66.9	9.0	11.5
Howard Prairie	60.0	44.3	60.6	52.8
Hyatt Prairie	16.1	12.7	16.1	14.6
Lost Creek	315.0	315.0	176.1	--

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Applegate	-	-	-
Bear Creek	2	51	41
Butte Creek	4	0	0
Illinois River	-	-	-
North Umpqua	3	0	0
Rogue River	4	27	14
Mt. Ashland	4	46	35

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

Streamflows are forecast to be much below average this summer. It ranges from 30% on the Sprague to 51% of normal for the Williamson. There will be shortages for users obtaining water directly from streams and for users of Clear Lake (CA) and Gerber reservoirs. This year's meager snowpack has been rapidly melting. The Lost River watershed now has only 12% of normal snow cover and the rest of the area has no snow. April precipitation was 84% of normal and for the total season it is 93%. Klamath Lake April inflow was only 52% of normal.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Clear Lake Reservoir Inflow	4.4	25	May-Sept.		17.5
Gerber Reservoir Inflow	2.7	50	May-Sept.		5.4
Sprague near Chiloquin	50	30	May-Sept.		167
Upper Klamath Lake net Inflow	164	48	May-Sept.		342
Williamson below Sprague River	145	51	May-Sept.		285

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Clear Lake	440.2	182.4	226.5	294.2
Gerber	94.0	46.5	64.3	76.8
Upper Klamath Lake	584.0	494.0	503.3	467.7

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Lost River	2	15	12
Sprague River	2	0	0
Upper Klamath	5	0	0
Williamson River	3	0	0

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

LAKE COUNTY, GOOSE LAKE WATERSHEDS

OREGON

GENERAL OUTLOOK

The streamflow is forecast to be much below average. It ranges from 12% of normal for Silver Creek to 40% for the Chewaucan. There will be shortages for users obtaining water directly from streams. Reservoir storage is adequate in most cases; however, Thompson Valley will not fill and there will probably be shortages for those users this summer. The snowpack has been melting rapidly. Only Deep Creek has snow left and it is only 11% of normal. The rest of the area is bare of snow. Precipitation for April was very good, 148% of normal; however, for the season it is 89% of average.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Chewaucan near Paisley	23	40	May-July		58
	25	40	May-Sept.		62
Cottonwood Creek nr. Lakeview	1.9	30	May-July		6.4
Deep above Adel	16.0	35	May-July		46
	17.0	35	May-Sept.		48
Drews Reservoir net Inflow	2.7	25	May-July		10.6
Honey Creek near Plush	3.7	30	May-July		12.4
	3.8	30	May-Sept.		12.6
Silver Creek near Silver Lake	1.0	12	May-July		8.1
Twentymile near Adel	3.2	28	May-Sept.		11.4
Bridge Cr. nr. Spahr Ranch nr. Silver Lake	0.8	25	May-July		3.0

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Deep Cr. above Adel	100	June 1	June 21
Honey Cr. nr. Plush	100	April 25	May 15
	50	May 5	May 30
Twentymile near Adel	10	June 5	July 3

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Cottonwood	8.7	4.5 ^a	8.7	6.2
Drews	63.0	46.6	63.0	59.0
Thompson Valley	19.5	5.7	12.1	--

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Chewaucan River	2	0	0
Deep Creek	2	15	11
Drew Creek	2	0	0
Honey Creek	1	0	0
Silver Creek	1	0	0
Twentymile Creek	-	-	-

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

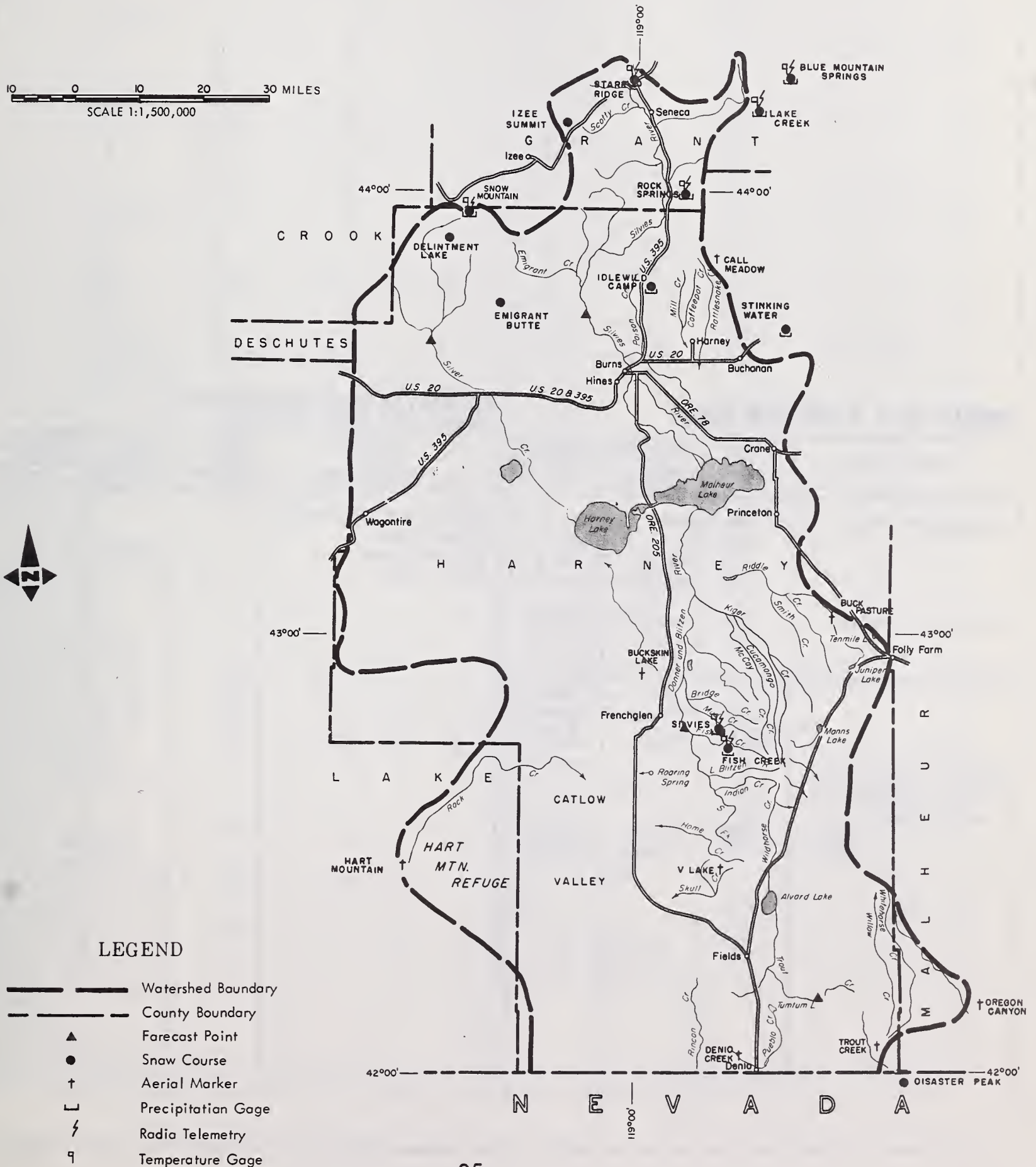
WATER SUPPLY OUTLOOK

HARNEY BASIN WATERSHEDS

OREGON

GENERAL OUTLOOK

Streamflow is forecast to be below average this year. Donner und Blitzen will be 78% of normal and Trout Creek will be 90%. These are the highest forecasts in the state. The snowpack has been melting and the Silvies River watershed now has no snow. Precipitation was above normal for April (128%), but for the season it is 88% of normal.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	PERIOD	Last Year Average ^c
Donner und Blitzen near Frenchglen	32	78	May-July	41
	36	78	May-Sept.	46
Silver near Riley	2.8	48	May-July	5.9
Silvies River near Burns	16.7	44	May-July	38
	17.6	44	May-Sept.	40
Trout Creek near Denio	5.8	90	May-July	6.5
	6.3	90	May-Sept.	7.0

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Silvies nr. Burns	400	April 14	May 5
	200	April 26	May 21
	100	May 19	June 9
	50	May 30	June 23
Donner und Blitzen	200	June 10	June 15
	100	July 1	July 5
=====			
	<u>GAGE HEIGHT</u>	<u>SURFACE ACRES</u>	<u>AVG. SURFACE ACRES</u>
Malheur Lake at Break in Cole Island Dike near Voltage			
July 1	93.30	40,100	40,000
Aug. 1	92.75	31,500	33,000

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Donner und Blitzen R.	-	-	-
Silver Creek	-	-	-
Silvies River	4	0	0
Trout Creek	-	-	-

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

MAY 1, 1981

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
OWYHEE, MALHEUR WATERSHEDS AREA 1					
Antelope Ridge (Ida.)	N/R				
Battle Creek (Ida.) *		<i>e</i>			
Bear Creek (Nev.)	4/29	27	9.7	15.2	21.3
Big Bend (Nev.)	4/28	0	0.0	0.0	2.5
Blue Mountain Springs	4/29	0	0.0	6.4	11.1
Blue Mtn. Spgs. Plw.(T)	N/R			9.9	--
Blue Mtn. Spgs. Plw.(S)	4/29	TR	0.1	9.0	6.8 ^b
Blue Mtn. Spgs. Plw.(M)	N/R			9.6	9.0 ^b
Boulder Creek *		<i>e</i>			
Buck Pasture *		<i>e</i>			
Buckskin, Lower (Nev.)		<i>e</i>			
Buckskin, Upper (Nev.)		<i>e</i>			
Bull Basin (Ida.) *		<i>e</i>			
Bully Creek *		<i>e</i>			
Call Meadows *		<i>e</i>			
Columbia Basin (Nev.)		<i>e</i>			
Disaster Peak (Nev.)		<i>e</i>			
Eldorado Pass	5/1	0	0.0	0.0	--
Fawn Cr. #2 Plw.(Nev.)	5/1	25	8.3	6.0	--
Fish Creek *		<i>e</i>			
Fish Creek		<i>e</i>			
Fish Creek Pillow (T)	5/1	--	14.3	--	--
Fish Creek Pillow (S)		<i>e</i>			
Fish Creek Pillow (M)		<i>e</i>			
Flag Prairie *		<i>e</i>			
Fox Creek (Nev.)		<i>e</i>			
Fry Canyon (Nev.)	5/1	0	0.0	0.0	1.5
Gold Creek (Nev.)	5/1	0	0.0	0.0	1.0
Gov't. Corrals		<i>e</i>			
Granite Peak (Nev.)		<i>e</i>			
Hyde Pasture (Ida.) *		<i>e</i>			
Jack Creek, Lower (Nev.)	5/1	0	0.0	0.0	1.4 ^b
Jack Creek, Upper (Nev.)	5/1	0	0.0	0.0	4.7 ^b
Jack Peak (Nev.)		<i>e</i>		23.9	26.8
Lake Creek R.S.	4/29	0	0.0	0.0	3.4 ^b
Lake Creek R.S. Plw.(T)	N/R			0.0	--
Lake Creek R.S. Plw.(S)	4/29	0	0.0	0.0	--
Lake Creek R.S. Plw.(M)	N/R			0.0	--
Laurel Draw (Nev.)	5/1	0	0.0	0.0	1.6 ^b
Logan Valley *	DISCONTINUED				
Lookout Butte *		<i>e</i>			
Louse Canyon *		<i>e</i>			
Martin Creek (Nev.)		<i>e</i>			
Merritt Mountain (Nev.) *		<i>e</i>			
Midas (Nev.)		<i>e</i>			
Mud Flat (Ida.)	N/R				
Oregon Canyon *		<i>e</i>			
Quinn Ridge (Nev.) *		<i>e</i>			
Red Canyon (Ida.) *		<i>e</i>			
Rock Springs	4/29	0	0.0	0.0	0.6
Rock Spgs. Plw. (T)	N/R				
Rock Spgs. Plw. (S)	4/29	0	0.0	0.0	--
Rock Spgs. Plw. (M)	N/R			0.0	--
Rodeo Flat (Nev.)	5/1	0	0.0	0.0	1.5
76 Creek (Nev.) *	5/1	0	0.0	0.0	6.7 ^b
Silver City (Ida.)		<i>e</i>			
Silver City (Ida.) *		<i>e</i>			
Silvies *		<i>e</i>			
Silvies		<i>e</i>			
Silvies Pillow (T)	5/1	--	2.0	--	--
Silvies Pillow (S)		<i>e</i>			
Silvies Pillow (M)		<i>e</i>			
South Mountain #2 (Ida.)	4/30	0	0.0	9.2	7.1 ^b
South Mtn. #2 Plw.(T)	5/1	--	0.4	3.3	--
Stag Mountain (Nev.) *		<i>e</i>			
Stinking Water	5/1	0	0.0	0.0	--
Succor Creek (Ida.) *		<i>e</i>			
Taylor Canyon (Nev.)	5/1	0	0.0	0.0	0.5
Toe Jam (Nev.) *		<i>e</i>			
Tremewan Ranch (Nev.) *		<i>e</i>			
Trout Creek *		<i>e</i>			
"V" Lake *		<i>e</i>			
Vaught Ranch (Ida.) *		<i>e</i>			
War Eagle (Ida.) *		<i>e</i>			

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS AREA 2					
Aneroid Lake #2	4/29	61	24.2	28.2	36.5
Aneroid Lake #2 Plw.(T)	N/R				
Aneroid Lake #2 Plw.(S)	4/29	65	25.5	26.5	--
Aneroid Lake #2 Plw.(M)	N/R				
Anthony Lake	4/30	40	23.2	34.7	30.8
Bald Mountain (OR) *	4/29	36	14.8	19.4	23.7 ^b
Beaver Reservoir (Rev.)	4/29	0	0.0	0.0	10.2
Beaver Res. Pillow (T)	N/R				
Beaver Res. Pillow (S)	4/29	0	0.0	0.0	--
Beaver Res. Pillow (M)	N/R				
Big Sheep *	4/29	43	17.6	21.6	23.7
Blue Mtn. Summit	4/29	0	0.0	0.0	1.8 ^b
Bourne	4/29	0	0.0	0.0	7.7 ^b
Bourne Pillow (T)	N/R			6.4	--
Bourne Pillow (S)	4/29	9	3.5	3.2	--
Bourne Pillow (M)	4/29	--	5.7	4.3	--
County Line	4/29	0	0.0	0.0	1.2 ^b
County Line (Rev.)	4/29	0	0.0	0.0	0.6 ^b
County Line Pillow (T)	N/R				
County Line Pillow (S)	4/29	0	0.0	0.0	--
County Line Pillow (M)	4/29	--	0.0	0.0	--
Dooley Mountain	4/29	0	0.0	0.0	1.7
Eilertson Meadows	4/29	0	0.0	0.0	4.6 ^b
Eilertson Meadows Plw.(T)	N/R				
Eilertson Meadows Plw.(S)	4/29	0	0.0	0.0	--
Eilertson Meadows Plw.(M)	4/29	--	0.0	0.0	--
Eldorado Pass	5/1	0	0.0	0.0	--
Gold Center	4/29	0	0.0	0.0	4.5 ^b
Gold Center Pillow (T)	N/R				
Gold Center Pillow (S)	4/29	0	0.0	0.0	--
Gold Center Pillow (M)	4/29	--	0.0	0.0	--
Goodrich Lake		<i>e</i>			
Little Alps	4/30	8	2.9	8.3	14.5
Little Antone	DISCONTINUED				
Little Antone (Alt.)	4/30	0	0.0	0.0	--
Lucky Strike	4/29	6	2.4	0.0	7.8
Lucky Strike Pillow (T)	N/R			0.0	--
Lucky Strike Pillow (S)	4/29	0	0.0	0.0	--
Lucky Strike Pillow (M)	4/29	--	0.0	0.0	--
Meacham	DISCONTINUED				
Mirror Lake *	4/29	103	42.2	73.3	74.2 ^b
Moss Spring	4/29	30	12.2	23.2	24.6
Moss Spring Pillow (T)	N/R				
Moss Spring Pillow (S)	4/29	33	13.8	20.0	--
Moss Spring Pillow (M)	4/29	--	9.7	20.1	--
Mt. Howard Pillow (T)	N/R				
Mt. Howard Pillow (S)	4/30	58	24.2	18.5	--
Mt. Howard Pillow (M)	N/R			13.2	--
Schneider Meadow	4/29	34	17.4	22.0	26.5
Schneider Meadow Plw.(T)	N/R				
Schneider Meadow Plw.(S)	4/29	34	19.0	22.0	--
Schneider Meadow Plw.(M)	N/R				
Schoolmarm	DISCONTINUED				
Standley *	4/29	56	23.0	44.1	35.7
Taylor Green	4/29	14	5.8	9.4	13.9 ^b
Taylor Green Pillow (T)	N/R			12.7	--
Taylor Green Pillow (S)	4/29	19	8.8	14.0	--
Taylor Green Pillow (M)	4/29	--	8.5	13.6	--
Tipton	4/29	0	0.0	0.0	1.6 ^b
Tipton Pillow (T)	4/30	--	3.0	--	--
Tipton Pillow (S)	4/29	11	3.1	0.0	--
Tipton Pillow (M)	4/29	--	3.2	0.0	--
Tollgate	DISCONTINUED				
TV Ridge *	4/29	27	11.1	23.0	23.9 ^b
West Eagle Meadows *	4/29	0	0.0	17.1	--
Wolf Creek Pillow (T)	N/R			5.3	--
Wolf Creek Pillow (S)	4/29	15	5.9	4.5	--
Wolf Creek Pillow (M)	4/29	--	7.0	2.3	--

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

MAY 1, 1981

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS AREA 3					
Arbuckle Mountain	4/29	0	0.0	0.0	2.6 ^b
Arbuckle Mtn. Plw. (T)	N/R			10.6	--
Arbuckle Mtn. Plw. (S)	4/29	29	10.9	8.4	--
Arbuckle Mtn. Plw. (M)	4/29	--	10.8	10.4	22.3 ^b
Blue Mountain Camp	4/29	0	0.0	0.0	6.6 ^b
Bowman Springs Plw. (T)	4/29	--	0.0	0.0	--
Bowman Springs Plw. (S)	4/29	0	0.0	0.0	--
Bowman Springs Plw. (M)	4/29	--	0.0	0.0	--
Butte Creek Summit	N/R				
Emigrant Springs	4/29	0	0.0	0.0	0.2 ^b
Emigrant Springs Plw. (T)	4/29	--	0.1	--	--
Emigrant Springs Plw. (S)	4/29	0	0.0	0.0	--
Emigrant Springs Plw. (M)	4/29	--	0.0	0.0	--
High Ridge Pillow (T)	N/R			18.8	--
High Ridge Pillow (S)	4/30	28	11.9	11.9	27.0
High Ridge Pillow (M)	4/30	--	10.0	14.3	--
Lucky Strike	4/29	6	2.4	0.0	7.8
Lucky Strike Pillow (T)	N/R			0.0	--
Lucky Strike Pillow (S)	4/29	0	0.0	0.0	--
Lucky Strike Pillow (M)	4/29	--	0.0	0.0	--
Madison Butte Pillow (T)	4/29	--	0.2	--	--
Madison Butte Pillow (S)	4/29	0	0.0	0.0	--
Madison Butte Pillow (M)	4/29	--	0.2	0.0	--
Meacham	DISCONTINUED				
Tollgate	DISCONTINUED				
UPPER JOHN DAY WATERSHEDS Area 4					
Anthony Lake	4/30	40	23.2	34.7	30.8
Arbuckle Mountain	4/29	0	0.0	0.0	2.6 ^b
Arbuckle Mountain Plw. (T)	N/R			10.6	--
Arbuckle Mountain Plw. (S)	4/29	29	10.9	8.4	--
Arbuckle Mountain Plw. (M)	4/29	--	10.8	10.4	22.3 ^b
Blue Mountain Springs	4/29	0	0.0	6.4	11.1
Blue Mtn. Spgs. Plw. (T)	N/R			9.9	--
Blue Mtn. Spgs. Plw. (S)	4/29	TR	0.1	9.0	6.8 ^b
Blue Mtn. Spgs. Plw. (M)	N/R			9.6	9.0 ^b
Blue Mountain Summit	4/29	0	0.0	0.0	1.8 ^b
Butte Creek Summit	N/R				
Derr		e			
Derr Pillow (T)	N/R				
Derr Pillow (S)		e			
Derr Pillow (M)		e			
Gold Center	4/29	0	0.0	0.0	4.5 ^b
Gold Center Plw. (T)	N/R				
Gold Center Plw. (S)	4/29	0	0.0	0.0	--
Gold Center Plw. (M)	4/29	--	0.0	0.0	--
Izee Summit	4/29	0	0.0	0.0	2.4
Lucky Strike	4/29	6	2.4	0.0	7.8
Lucky Strike Plw. (T)	N/R			0.0	--
Lucky Strike Plw. (S)	4/29	0	0.0	0.0	--
Lucky Strike Plw. (M)	4/29	--	0.0	0.0	--
Marks Creek	5/4	0	0.0	0.0	0.1
Ochoco Meadows		e			
Ochoco Meadows Plw. (T)	N/R				
Ochoco Meadows Plw. (S)		e			
Ochoco Meadows Plw. (M)		e			
Olive Lake *	DISCONTINUED				
Schoolmarm	DISCONTINUED				
Snow Mountain		e			
Snow Mtn. Plw. (T)	5/1	--	2.0	--	--
Snow Mtn. Plw. (S)		e			
Snow Mtn. Plw. (M)		e			
Starr Ridge	4/29	0	0.0	0.0	1.2
Starr Ridge Plw. (T)	N/R				
Starr Ridge Plw. (S)	4/29	0	0.0	0.0	--
Starr Ridge Plw. (M)	N/R			0.0	--
Tipton	4/29	0	0.0	0.0	1.6 ^b
Tipton Pillow (T)	4/30	--	3.0	--	--
Tipton Pillow (S)	4/29	11	3.1	0.0	--
Tipton Pillow (M)	4/29	--	3.2	0.0	--

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
UPPER DESCHUTES, CROOKED WATERSHEDS AREA 5					
Bald Peter	4/30	23	9.6	--	35.5 ^b
Caldwell Ranch		e			
Cascade Summit	4/28	14	5.3	9.3	27.4
Cascade Summit Plw. (T)	N/R				
Cascade Summit Plw. (S)	4/28	29	10.9	16.1	--
Cascade Summit Plw. (M)	4/28	--	11.0	14.5	--
Chemult Alternate	4/30	0	0.0	0.0	1.8
Chemult Alt. Plw. (T)	4/30	--	0.0	--	--
Chemult Alt. Plw. (S)	4/30	0	0.0	0.0	--
Chemult Alt. Plw. (M)	4/30	--	0.0	0.0	--
Derr		e			
Derr Pillow (T)	N/R				
Derr Pillow (S)		e			
Derr Pillow (M)		e			
Hogg Pass	4/27	32	12.5	19.8	42.4
Hogg Pass Pillow (T)	4/28	--	15.2	23.2	--
Hogg Pass Pillow (S)	4/27	38	15.1	22.9	--
Hogg Pass Pillow (M)	4/27	--	15.1	24.0	--
Hungry Flat	4/30	0	0.0	0.0	--
Irish-Taylor Pillow (T)	N/R				
Irish-Taylor Pillow (S)	4/30	46	18.1	26.9	--
Irish-Taylor Pillow (M)	4/30	--	18.9	30.3	--
Lionshead *	4/28	0	0.0	3.2	--
Marks Creek	5/4	0	0.0	0.0	0.1
New Crescent Lake	4/29	0	0.0	0.0	6.2
New Crescent Lake Plw. (T)	5/1	--	0.1	--	--
New Crescent Lake Plw. (S)	4/28	0	0.0	0.0	--
New Crescent Lake Plw. (M)	4/28	--	0.0	0.0	--
New Dutchman Flat #2	4/30	47	21.9	44.2	55.9
Ochoco Meadows		e			
Ochoco Meadows Plw. (T)	N/R				
Ochoco Meadows Plw. (S)		e			
Ochoco Meadows Plw. (M)		e			
Racing Creek	4/30	0	0.0	--	12.6 ^b
Snow Mountain		e			
Snow Mountain Plw. (T)	5/1	--	2.0	--	--
Snow Mountain Plw. (S)		e			
Snow Mountain Plw. (M)		e			
Summit Lake Pillow (T)	N/R				
Summit Lake Pillow (S)	4/29	50	20.0	30.4	40.6 ^b
Summit Lake Pillow (M)	4/29	--	18.8	31.2	--
Tamarack		e			
Tangent	4/30	0	0.0	5.4	14.7
Three Creek Butte	4/28	0	0.0	0.0	2.4
Three Creek Meadow	4/28	0	0.0	3.0	13.9
Three Creek Mdw. Plw. (T)	4/29	--	1.8	--	--
Three Creek Mdw. Plw. (S)	4/28	3	1.8	13.9	--
Three Creek Mdw. Plw. (M)	4/28	--	1.1	9.4	--
Waldo Lake	DISCONTINUED				
Whitewater Meadow *	4/28	0	0.0	0.0	--

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BASIC DATA SUPPLEMENT 1

MAY 1, 1981

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. C
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS AREA 6					
Brooks Meadow		e			
Clear Lake	4/27	0	0.0	0.6	7.3
Clear Lake Pillow (T)	4/30	--	0.0	--	--
Clear Lake Pillow (S)	4/27	0	0.0	5.5	--
Clear Lake Pillow (M)	4/27	--	0.0	--	--
Clear Lake Expt.	4/27	0	0.0	5.5	11.4 ^b
Greenpoint		e			
Greenpoint Pillow (T)	5/1	--	0.0	--	--
Greenpoint Pillow (S)		e			
Greenpoint Pillow (M)		e			
Mt. Hood Test Site (T)	N/R			62.0	68.3 ^b
Mt. Hood Test Site (S)	4/30	58	24.2	59.5	63.3 ^b
Mt. Hood Test Site (M)	4/30	--	27.3	65.2	--
Mud Ridge Pillow (T)	5/1	--	0.0	18.2	--
Mud Ridge Pillow (S)	4/28	0	0.0	15.1	30.3
Mud Ridge Pillow (M)	N/R			20.0	--
Red Hill		e			
Red Hill Pillow (T)	5/1	--	9.0	--	--
Red Hill Pillow (S)		e			
Red Hill Pillow (M)		e			
Still Creek	4/29	0	0.0	12.8	24.1
Switchback		e			
Tilly Jane		e			
LOWER COLUMBIA WATERSHED AREA 7					
Blazed Alder Pillow (T)	4/30	--	3.3	--	--
Blazed Alder Pillow (S)	N/R			9.5	--
Blazed Alder Pillow (M)	N/R			16.6	--
Mt. Hood Test Site (T)	N/R			62.0	68.3 ^b
Mt. Hood Test Site (S)	4/30	58	24.2	59.5	63.3 ^b
Mt. Hood Test Site (M)	4/30	--	27.3	65.2	--
Mud Ridge Pillow (T)	5/1	--	0.0	18.2	--
Mud Ridge Pillow (S)	4/28	0	0.0	15.1	30.3
Mud Ridge Pillow (M)	N/R			20.0	--
North Fork Res. (T)	5/1	--	0.0	1.1	--
North Fork Res. (S)	N/R			0.1	--
North Fork Res. (M)	N/R				
Still Creek	4/28	0	0.0	12.8	24.1
WILLAMETTE WATERSHEDS AREA 8					
Cascade Summit	4/28	14	5.3	9.3	27.4
Cascade Summit Plw. (T)	N/R				
Cascade Summit Plw. (S)	4/28	29	10.9	16.1	--
Cascade Summit Plw. (M)	4/28	--	11.0	14.5	--
Champion	5/1	0	0.0	5.0	30.6 ^b
Clackamas Lake		e			
Clackamas Lake Plw. (T)	N/R				
Clackamas Lake Plw. (S)		e			
Clackamas Lake Plw. (M)		e			
Clear Lake	4/27	0	0.0	0.6	7.3
Clear Lake Plw. (T)	4/30	--	0.0	--	--
Clear Lake Plw. (S)	4/27	0	0.0	5.5	--
Clear Lake Plw. (M)	4/27	--	0.0	--	--
Clear Lake Expt.	4/27	0	0.0	5.5	11.4 ^b

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
WILLAMETTE WATERSHEDS(CONT.)					
Daly Lake Plw. (T)	5/1	--	0.0	--	--
Daly Lake Plw. (S)		<i>e</i>			
Daly Lake Plw. (M)		<i>e</i>			
Dead Horse Grade	4/29	0	0.0	0.0	14.0
Golden Curry Creek	5/1	0	0.0	0.0	1.3
Hogg Pass	4/27	32	12.5	19.8	42.4
Hogg Pass Pillow (T)	4/28	--	15.2	23.2	--
Hogg Pass Pillow (S)	4/27	38	15.1	22.9	--
Hogg Pass Pillow (M)	4/27	--	15.1	24.0	--
Holland Meadows Plw. (T)	4/29	--	0.1	--	--
Holland Meadows Plw. (S)		<i>e</i>			
Holland Meadows Plw. (M)		<i>e</i>			
Jump Off Joe Pillow (T)	N/R			0.0	--
Jump Off Joe Pillow (S)	4/27	0	0.0	0.0	--
Jump Off Joe Pillow (M)	N/R			0.0	--
Layng Creek		<i>e</i>			
Little Meadows Plw.(T)	5/1	--	0.6	--	--
Little Meadows Plw.(S)		<i>e</i>			
Little Meadows Plw.(M)		<i>e</i>			
Lost Creek		<i>e</i>			
Lund Park		<i>e</i>			
Marion Forks	4/27	0	0.0	0.0	7.2
Marion Forks Pillow (T)	N/R				
Marion Forks Pillow (S)	4/27	0	0.0	0.0	--
Marion Forks Pillow (M)	4/27	--	0.0	0.0	--
Marys Peak		<i>e</i>			
McCredie Springs	4/28	0	0.0	0.0	--
McKenzie	4/29	35	16.2	30.2	48.1
McKenzie Pillow (T)	N/R				
McKenzie Pillow (S)	4/29	34	15.2	27.7	--
McKenzie Pillow (M)	4/29	--	15.9	25.4	--
Mt. Hood Test Site (T)	N/R			62.0	68.3 ^b
Mt. Hood Test Site (S)	4/30	58	24.2	59.5	63.3 ^b
Mt. Hood Test Site (M)	4/30	--	27.3	65.2	--
Peavine Ridge Pillow (T)	N/R			--	14.5 ^b
Peavine Ridge Pillow (S)	N/R			0.0	--
Peavine Ridge Pillow (M)	N/R			0.0	--
Railroad Overpass	4/28	0	0.0	0.0	--
Railroad Overpass Plw.(T)	N/R				
Railroad Overpass Plw.(S)	4/28	0	0.0	0.0	--
Railroad Overpass Plw.(M)	4/28	--	0.0	0.0	--
Roaring River Plw. (T)	5/1	--	0.4	--	--
Roaring River Plw. (S)		<i>e</i>			
Roaring River Plw. (M)		<i>e</i>			
Saddle Mountain Pillow(T)	5/1	--	0.0	0.0	3.2
Salt Creek Falls	4/28	0	0.0	0.0	12.9
Salt Creek Falls Plw.(T)	4/29	--	0.0	--	--
Salt Creek Falls Plw.(S)	4/28	0	0.0	0.0	--
Salt Creek Falls Plw.(M)	4/28	--	0.0	0.0	--
Santiam Junction	4/27	0	0.0	0.0	16.2
Santiam Junction Plw.(T)	N/R			0.0	--
Santiam Junction Plw.(S)	4/27	0	0.0	0.0	--
Santiam Junction Plw.(M)	4/27	--	0.0	0.0	--
Seine Creek Pillow (T)	5/1	--	0.0	--	--
Still Creek	4/28	0	0.0	12.8	24.1
Summit Lake Pillow (T)	N/R				
Summit Lake Pillow (S)	4/29	50	20.0	30.4	40.6 ^b
Summit Lake Pillow (M)	4/29	--	18.8	31.2	--
Timothy Lake	N/R			7.8	12.4 ^b
Waldo Lake	DISCONTINUED				
Weaver Creek	5/1	0	0.0	0.0	--
White Branch Slide	4/29	0	0.0	0.0	0.4
Whitewater Bridge	4/27	0	0.0	0.0	--

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

MAY 1, 1981

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
ROGUE, UMPQUA WATERSHEDS AREA 9					
Althouse		e			
Annie Spring	5/2	35	16.0	35.2	45.8
Beaver Dam Creek	5/1	0	0.0	0.0	7.6
Bigelow Camp Plw.(T)	N/R				
Bigelow Camp Plw.(S)		e			
Bigelow Camp Plw.(M)		e			
Big Red Mountain		e			
Big Red Mtn.Plw.(T)	4/30	--	0.1	--	--
Big Red Mtn.Plw.(S)		e			
Big Red Mtn.Plw.(M)		e			
Billie Creek Divide	4/28	0	0.0	8.1	14.3
Billie Cr. Div. Plw.(T)	N/R				
Billie Cr. Div. Plw.(S)	4/28	0	0.0	6.0	--
Billie Cr. Div. Plw.(M)	4/28	--	0.0	9.3	--
Caliban	4/24	33	14.2	33.8	38.9
Caliban (Alternate)	4/24	34	14.4	29.8	--
Champion	5/1	0	0.0	5.0	30.6
Cold Springs Camp	4/30	23	10.1	23.2	35.7
Cold Spgs. Camp Plw.(T)	N/R			--	30.5
Cold Spgs. Camp Plw.(S)	4/30	0	0.0	9.8	--
Cold Spgs. Camp Plw.(M)	N/R			10.6	--
Deadwood Junction	5/1	0	0.0	0.0	3.1
Diamond-Crater Summit	4/28	20	8.1	18.6	30.7
Diamond Lake	4/28	0	0.0	5.6	18.2
Diamond Lake Plw.(T)	4/28	--	0.0	--	--
Diamond Lake Plw.(S)	4/28	0	0.0	0.0	--
Diamond Lake Plw.(M)	4/28	--	0.0	0.0	--
Fish Lake	4/28	0	0.0	0.0	7.9
Fish Lake Pillow (T)	N/R				
Fish Lake Pillow (S)	4/28	0	0.0	0.0	--
Fish Lake Pillow (M)	4/28	--	0.0	0.0	--
Fourmile Lake	4/28	0	0.0	14.5	21.9
Fourmile Lake Pillow (T)	N/R				
Fourmile Lake Pillow (S)	4/28	17	7.4	20.0	--
Fourmile Lake Pillow (M)	4/28	--	7.2	19.7	--
Grayback Peak		e			
Howard Prairie Reservoir	5/1	0	0.0	0.0	2.6
Hyatt Prairie	5/1	0	0.0	0.0	3.4
Hyatt Prairie Pillow (T)	N/R				
Hyatt Prairie Pillow (S)	5/1	0	0.0	0.0	--
Hyatt Prairie Pillow (M)	N/R				
King Mountain #1	4/27	0	0.0	0.0	6.2
King Mountain #2	4/27	0	0.0	0.0	3.1
King Mountain #2 Plw.(T)	N/R				
King Mountain #2 Plw.(S)	4/27	0	0.0	--	--
King Mountain #2 Plw.(M)	4/27	--	0.0	--	--
King Mountain #3	4/27	0	0.0	0.0	--
King Mountain #4	4/27	0	0.0	0.0	--
King Mountain #5	4/27	0	0.0	0.0	--
King Mountain #6	4/27	0	0.0	0.0	--
Little Red Mountain	DISCONTINUED				
Mt. Ashland Switchback	4/24	40	15.3	30.0	37.1
Mule Creek	4/27	0	0.0	0.0	2.8
North Umpqua	4/29	0	0.0	0.0	7.3
Page Mountain		e			
Park Headquarters	5/2	60	28.0	51.6 ^a	63.7
Red Butte #1	4/27	0	0.0	0.0	13.8
Red Butte #2	4/27	0	0.0	0.0	5.5
Red Butte #3	4/27	0	0.0	0.0	1.0
Red Butte #4	4/27	0	0.0	0.0	--
Red Butte #5	4/27	0	0.0	0.0	--
Red Butte #6	4/27	0	0.0	0.0	--
Seven Mile		e			
Seven Mile Pillow (T)	N/R				
Seven Mile Pillow (S)		e			
Seven Mile Pillow (M)		e			
Silver Burn	5/1	0	0.0	0.0	3.5
Siskiyou Summit	4/28	0	0.0	0.0	--
Ski Bowl Road	4/24	15	5.8	17.4	26.0
South Fork Canal	4/30	0	0.0	0.0	--
Trap Creek	4/29	0	0.0	0.0	5.8

SNOW

SNOW	THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
KLAMATH WATERSHEDS AREA 10					
Annie Spring	5/2	35	16.0	35.2	45.8
Billie Creek Divide	4/28	0	0.0	8.1	14.3
Billie Cr. Div. Plw.(T)	N/R				
Billie Cr. Div. Plw.(S)	4/28	0	0.0	6.0	--
Billie Cr. Div. Plw.(M)	4/28	--	0.0	9.3	--
Chemult Alternate	4/30	0	0.0	0.0	1.8
Chemult Alternate Plw.(T)	4/30	--	0.0	--	--
Chemult Alternate Plw.(S)	4/30	0	0.0	0.0	--
Chemult Alternate Plw.(M)	4/30	--	0.0	0.0	--
Cold Springs Camp	4/30	23	10.1	23.2	35.7 ^b
Cold Spgs. Camp Plw.(T)	N/R			--	30.5 ^b
Cold Spgs. Camp Plw.(S)	4/30	0	0.0	9.8	--
Cold Spgs. Camp Plw.(M)	N/R			10.6	--
Crazyman Flat *	4/27	0	0.0	3.6	5.9 ^b
Crowder Flat (Calif.) *		<i>e</i>			
Crystal (PP&L)		<i>e</i>			
Diamond-Crater Summit	4/28	20	8.1	18.6	30.7
Dog Hollow *		<i>e</i>			
Finley Corrals *	4/27	0	0.0	10.8	8.8 ^b
Fort Klamath (PP&L)		<i>e</i>			
Fourmile Lake	4/28	0	0.0	14.5	21.9 ^b
Fourmile Lake Plw.(T)	N/R				
Fourmile Lake Plw.(S)	4/28	17	7.4	20.0	--
Fourmile Lake Plw.(M)	4/28	--	7.2	19.7	--
Gerber		<i>e</i>			
Harriman (PP&L)		<i>e</i>			
Howard Prairie	5/1	0	0.0	0.0	2.6 ^b
Hyatt Prairie Reservoir	5/1	0	0.0	0.0	3.4 ^b
Hyatt Prairie Res.Plw.(T)	N/R				
Hyatt Prairie Res.Plw.(S)	5/1	0	0.0	0.0	--
Hyatt Prairie Res.Plw.(M)	N/R				
Park Headquarters	5/2	60	28.0	51.6 ^a	63.7
Quartz Mountain	4/28	0	0.0	0.0	1.0
Quartz Mtn. Pillow (T)	N/R				
Quartz Mtn. Pillow (S)	4/28	0	0.0	0.0	--
Quartz Mtn. Pillow (M)	N/R			0.0	--
Seven Mile		<i>e</i>			
Seven Mile Pillow (T)	N/R				
Seven Mile Pillow (S)		<i>e</i>			
Seven Mile Pillow (M)		<i>e</i>			
State Line (Calif.) *		<i>e</i>			
Strawberry	4/28	0	0.0	0.0	2.4
Strawberry Pillow (T)	N/R				
Strawberry Pillow (S)	4/28	0	0.0	0.0	--
Strawberry Pillow (M)	N/R			0.0	--
Summer Rim *	4/29	10	4.0	16.2	14.5 ^b
Summer Rim		<i>e</i>			
Summer Rim Pillow (T)	5/1	--	7.3	--	--
Summer Rim Pillow (S)		<i>e</i>			
Summer Rim Pillow (M)		<i>e</i>			
Sycan Flat *		<i>e</i>			
Taylor Butte	4/28	0	0.0	0.0	0.6 ^b
Taylor Butte Pillow (T)	N/R			0.0	--
Taylor Butte Pillow (S)	4/28	0	0.0	0.0	--
Taylor Butte Pillow (M)	N/R			0.0	--

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

MAY 1, 1981

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c

LAKE COUNTY, GOOSE LAKE WATERSHEDS AREA 11					
Adin Mountain (Calif.)	4/23	0	0.0	9.6	7.3
Bald Mountain (Nev.)		e			
Bear Flat Meadow *		e			
Camas Creek #1	4/28	0	0.0	0.0	3.1
Camas Creek #2	4/28	0	0.0	0.5	--
Cedar Pass (Calif.)	4/30	4	2.1	14.3	14.4
Colvin Creek *		e			
Cox Flat *		e			
Crowder Flat (Calif.) *		e			
Dismal Swamp (Calif.) *		e			
Dismal Swamp #2 Plw.(T)	N/R				
Dismal Swamp #2 Plw.(S)		e			
Dismal Swamp #2 Plw.(M)		e			
Finley Corrals *	4/27	0	0.0	10.8	8.8 ^b
Hart Mountain *		e			
Little Bally Mtn.(Nev.)		e			
Mt. Bidwell (Calif.)		e			
North Star (Calif.)		e			
Patton Meadows *	5/1	8	3.2	19.8	13.8 ^b
Quartz Mountain	4/28	0	0.0	0.0	1.0
Quartz Mountain Plw.(T)	N/R				
Quartz Mountain Plw.(S)	4/28	0	0.0	0.0	--
Quartz Mountain Plw.(M)	N/R			0.0	--
Reservation Creek (Calif.)		e			
Rogger Meadows *		e			
Sherman Valley *		e			
Silver Creek		e			
Silver Creek Plw.(T)	N/R				
Silver Creek Plw.(S)		e			
Silver Creek Plw.(M)		e			
State Line (Calif.) *		e			
Strawberry	4/28	0	0.0	0.0	2.4
Strawberry Plw.(T)	N/R				
Strawberry Plw.(S)	4/28	0	0.0	0.0	--
Strawberry Plw.(M)	N/R			0.0	--
Summer Rim *	4/29	10	4.0	16.2	14.5 ^b
Summer Rim		e			
Summer Rim Plw.(T)	5/1	--	7.3	--	--
Summer Rim Plw.(S)		e			
Summer Rim Plw.(M)		e			
Sycan Flat *		e			

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c

HARNEY BASIN WATERSHEDS AREA 12					
Blue Mountain Springs	4/29	0	0.0	6.4	11.1
Blue Mtn. Spgs. Plw.(T)	N/R			9.9	--
Blue Mtn. Spgs. Plw.(S)	4/29	TR	0.1	9.0	6.8 ^b
Blue Mtn. Spgs. Plw.(M)	N/R			9.6	9.0 ^b
Buck Pasture *		e			
Buckskin Lake *		e			
Call Meadows *		e			
Delintment Lake		e			
Denio Creek *		e			
Disaster Peak (Nev.)		e			
Emigrant Butte		e			
Fish Creek *		e			
Fish Creek		e			
Fish Creek Plw.(T)	5/1	--	14.3	--	--
Fish Creek Plw.(S)		e			
Fish Creek Plw.(M)		e			
Govt. Corrals		e			
Hart Mountain *		e			
Idlewild Camp Alt.	4/30	0	0.0	0.0	0.5 ^b
Izee Summit	4/29	0	0.0	0.0	2.4
Lake Creek R.S.	4/29	0	0.0	0.0	3.4 ^b
Lake Creek R.S. Plw.(T)	N/R			0.0	--
Lake Creek R.S. Plw.(S)	4/29	0	0.0	0.0	--
Lake Creek R.S. Plw.(M)	N/R			0.0	--
Oregon Canyon *		e			
Rock Springs	4/29	0	0.0	0.0	0.6
Rock Springs Plw.(T)	N/R				
Rock Springs Plw.(S)	4/29	0	0.0	0.0	--
Rock Springs Plw.(M)	N/R			0.0	--
Silvies *		e			
Silvies		e			
Silvies Plw.(T)	5/1	--	2.0	--	--
Silvies Plw.(S)		e			
Silvies Plw.(M)		e			
Snow Mountain		e			
Snow Mountain Plw.(T)	5/1	--	2.0	--	--
Snow Mountain Plw.(S)		e			
Snow Mountain Plw.(M)		e			
Starr Ridge	4/29	0	0.0	0.0	1.2
Starr Ridge Pillow (T)	N/R				
Starr Ridge Pillow (S)	4/29	0	0.0	0.0	--
Starr Ridge Pillow (M)	N/R			0.0	--
Stinking Water	5/1	0	0.0	0.0	--
Trout Creek *		e			
"V" Lake *		e			

* Aerial

N/R No Report

TR Trace

T = Telemetry Measurement

S = Snow Tube Measurement

M = Manometer Measurement

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 2

MAY 1, 1981

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average ^c
Aneroid Lake #2 (Wallowa County)	7300	From 3/31 To 4/29	4.44"		
Arbuckle Mountain (Morrow County)	5400	From 3/27 To 4/29	5.25"		
Beaver Reservoir (Union County)	5150	From 3/31 To 4/29	3.60"		
Billie Creek Divide (Jackson County)	5310	From 3/27 To 4/28	4.92"		
Blue Mountain Springs (Grant County)	5900	From 4/1 To 4/29	2.40"		
Bourne (Baker County)	5800	From 3/28 To 4/29	3.00"		
Bowman Springs (Union County)	4580	From 3/27 To 4/29	5.25"		
Cascade Summit (Lane County)	4880	From 3/26 To 4/28	8.64"		
Chemult (Klamath County)	4760	From 3/31 To 4/30	1.08"		
Clear Lake (Wasco County)	3500	From 3/30 To 4/27	3.60"		
Cold Springs (Klamath County)	6100	From 3/30 To 4/30	4.92"		
County Line (Umatilla County)	4800	From 3/27 To 4/29	4.68"		
Diamond Lake (Douglas County)	4600	From 3/25 To 4/28	4.68"		
Emigrant Springs (Umatilla County)	3925	From 3/27 To 4/29	3.96"		
Fish Lake (Jackson County)	4665	From 3/27 To 4/28	5.28"		
Fourmile Lake (Klamath County)	6000	From 3/26 To 4/28	4.32"		
Gold Center (Grant County)	5340	From 3/28 To 4/29	2.40"		
High Ridge (Umatilla County)	4150	From 3/31 To 4/30	5.88"		
Hogg Pass (Jefferson County)	4755	From 3/27 To 4/27	8.52"		
Hyatt Prairie (Jackson County)	4900	3/31 To 5/1	2.68"		
Irish-Taylor (Deschutes County)	5500	From 3/31 To 4/30	5.28"		
Jump-Off-Joe (Linn County)	3400	From 3/27 To 4/27	8.04"		
King Mountain (Douglas County)	4500	From 3/30 To 4/27	4.08"		

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 2

MAY 1, 1981

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average ^c
Lake Creek (Grant County)	5120	From 4/1 To 4/29	1.32"		
Lucky Strike (Umatilla County)	5050	From 3/27 To 4/29	3.12"		
Madison Butte (Morrow County)	5250	From 3/27 To 4/29	3.12"		
Marion Forks (Linn County)	2730	From 3/27 To 4/27	7.32"		
Marks Creek (Crook County)	4540	From 1/30 To 5/4	8.75"		
McKenzie (Lane County)	5000	From 3/29 To 4/29	11.64"		
Moss Springs (Union County)	5850	From 2/25 To 4/29	13.56"		
Mt. Hood Test Site (Clackamas County)	5400	From 3/26 To 4/30	16.88"		
Mt. Howard (Wallowa County)	7910	From 3/28 To 4/29	6.24"		
Mud Ridge (Clackamas County)	3800	From 3/30 To 4/28	6.48"		
New Crescent Lake (Klamath County)	4800	From 3/30 To 5/1	3.24"		
Quartz (Lake County)	6300	From 3/30 To 4/28	1.92"		
Railroad Overpass (Lane County)	2750	From 3/26 To 4/28	6.48"		
Rock Springs (Grant County)	5100	From 3/31 To 4/29	1.56"		
Salt Creek Falls (Lane County)	4000	From 3/26 To 4/28	8.64"		
Santiam Junction (Lane County)	3750	From 3/27 To 4/27	7.08"		
Schneider Meadows (Baker County)	5400	From 3/28 To 4/29	3.84"		
Starr Ridge (Grant County)	5156	From 3/31 To 4/29	1.44"		
Strawberry (Lake County)	5760	From 3/26 To 4/28	2.40"		
Summit Lake (Klamath County)	5600	From 3/30 To 4/29	6.24"		
Taylor Butte (Klamath County)	5040	From 3/26 To 4/28	2.64"		
Taylor Green (Baker County)	5740	From 3/28 To 4/28	5.28"		

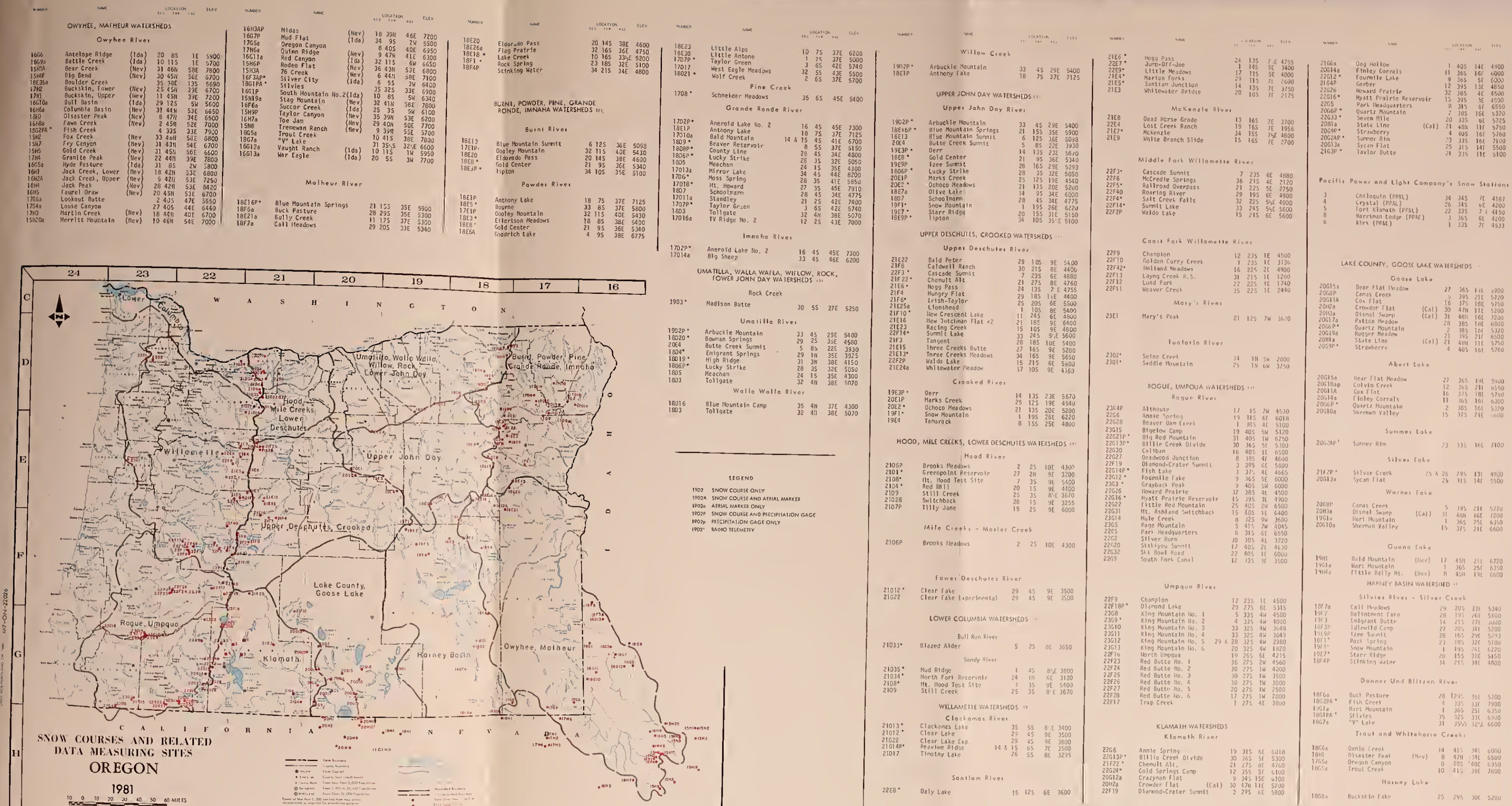
(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 2

PRECIPITATION (Inches)

PRECIPITATION (Inches)		CURRENT INFORMATION		PAST RECORD	
DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	Date of Reading	Precipitation	Last Year	Average
Three Creek Meadows (Deschutes County)	5650	From 3/27 To 4/28	4.44"		
Tipton (Baker County)	5100	From 3/28 To 4/29	2.88"		
Wolf Creek (Union County)	5700	From 3/28 To 4/29	2.04"		

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.



The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon State University
Oregon Department of Water Resources
Soil and Water Conservation District of Oregon

COUNTY

Douglas County Water Resources Survey

FEDERAL

Department of Agriculture
Cooperative Extension Service
Forest Service
Soil Conservation Service
Department of Army
Corps of Engineers
Department of Commerce
NOAA, National Weather Service
Department of Energy
Bonneville Power Administration
Department of the Interior
Bureau of Land Management
Fish and Wildlife Service
Geological Survey
Water and Power Resources Service

PUBLIC UTILITIES

Pacific Power and Light Company
Portland General Electric Company
California-Pacific National

MUNICIPALITIES

City of Baker
City of La Grande
City of Portland
City of The Dalles
City of Walla Walla

IRRIGATION DISTRICTS

Arnold Irrigation District
Associated Ditch Companies
Burnt River Irrigation District
Central Oregon Irrigation District
East Fork Irrigation District
Grants Pass Irrigation District
Hood River Irrigation District
Jordan Valley Irrigation District
Juniper Flat Irrigation District
Lakeview Water Users, Incorporated
Medford Irrigation District
Middle Fork Irrigation District
North Board of Control - Owyhee Project
Ochoco Irrigation District
Rogue River Valley Irrigation District
South Board of Control - Owyhee Project
Squaw Creek Irrigation District
Talent Irrigation District
Tumalo Project
Vale - Oregon Irrigation District
Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

The Crag Rats, Hood River, Oregon

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